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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/573,290

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Tom Kr. Hvaal

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EXAMINER

HARRISON, NICOLE K

ART UNIT

PAPER NUMBER

1794

NOTIFICATION DATE

DELIVERY MODE

02/05/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/573,290	Applicant(s) HVAAL ET AL.	
	Examiner NICOLE HARRISON	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/23/06 & 5/10/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 6 is objected to because of the following informalities: There are commas for the depths in line 3. Please change to periods. Appropriate correction is required.
2. Claim 10 is objected to because of the following informalities: There are commas for the depths in lines 3 and 4. Please change to periods. Appropriate correction is required.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. Claims 7 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 recites the limitation "the machining width" in line 2 of claim 7. There is insufficient antecedent basis for this limitation in the claim.

Claim 10 recites the limitation "the plate" in line 3 of claim 10. There is insufficient antecedent basis for this limitation in the claim. Which plate is being referenced – the standard high pressure laminate plate or the marine flooring plate?

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cannady et al. (U.S. Patent No. 3,648,358) in further view of Jaisle et al. (U.S. Patent No. 4,636,443) and the English translation and Derwent abstract of Kato (Japanese Patent Publication No. 2003-034011) and as evidenced by Fuerst (U.S. Patent No. 3,373,071), Hanns (U.S. Patent No. 2,943,013), and Grosheim et al. (U.S. Patent No. 3,551,241).

Regarding claims 1 and 3-5, Cannady et al. discloses a high pressure laminate comprising a plurality of core sheets (30), a decorate sheet (29) positioned above the core sheets, and a protective overlay sheet (26) positioned above the decorate sheet (col.3, lines 7-10); Fig. 2). The core stock layer (body) comprises a plurality of sheets of kraft paper impregnated with phenolic resin (thermosetting binding agent) (col.3, lines 45-47). The print sheet (upper layer) in the form of a decorate sheet can be printed with a wood grain (col.3, lines 26-29) and comprises a single sheet of cellulose paper, impregnated with a thermoset melamine-formaldehyde resin (col.3, lines 30-33). The protective overlay sheet (wear resistant top layer) is a sheet of fine paper impregnated

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with a melamine-formaldehyde resin (col.3, lines 16-18) and can be clear (col.4, lines 46-47).

Cannady et al. does not specifically state that the protective overlay sheet is wear-resistant. However, it was known in the art at the time of invention that an overlay sheet comprising translucent overlay paper impregnated with a thermosetting resin such as melamine resin protects the decorative sheet from external abuse like wear, as evidenced by Fuerst (col.1, lines 36-38). It was also known in the art that such laminates were also used in flooring applications, as evidenced by Fuerst (col.1, lines 16-18).

Cannady et al. fails to teach the color of the core/body of the laminate. Examiner notes that applicant did not state in the specification what exactly "through inked black or brown core" meant. Therefore for examination purposes, "through inked black or brown core" means that the core has an overall color of black or brown based on the materials used to create the core. At the time of invention one of ordinary skill in the art would have known that the body/core of the high pressure laminate would have had a brown color since the kraft paper commonly used was brown, as evidenced by Hanns (col.2, lines 69-70), and the phenolic resin used to impregnate the kraft paper has a light amber color and becomes dark brown during lamination, as evidenced by Grosheim et al. (col.3, lines 65-67). Furthermore, Jaisle et al. discloses that the core sheets can be pigmented kraft paper (col.3, lines 16-17). Although Jaisle et al. does not specifically give certain colors for which the kraft paper could be, the prior art does disclose that the color should be complementary to the color of the article's surface resulting from the

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décor sheet (col.3, lines 25-26). It is well within the ordinary skill of someone in the art to tailor the color of the pigmented kraft paper for aesthetic purposes. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Cannady et al. and Jaisle et al. before him or her, to modify the core stock layer of Cannady et al. to include the core layer of Jaisle et al. because the pigmented core sheets are then able to conform to a color of the decorative sheet layer (col.3, lines 22-23).

Cannady et al. also fails to teach the wear resistant top layer and the upper layer machined in depth and into the core of the high pressure laminate to form seams. However, Kato et al. discloses a decorative flooring sheet that has a slot (5) of a predetermined pattern such as a V, U, R, quadrangular, or polygonal shape ([0051]) machined beyond the face sheet (3) into the rigid sheet layer (2), but does not penetrate through the rigid sheet layer ([0015]; Fig. 2). The rigid sheet layer (2) can be made of a thermosetting resin impregnated paper ([0017]). The face sheet provides the desired design to the surface of a decorative sheet such as a printed design ([0021]). At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Cannady et al. and Kato et al. before him or her, to modify the high pressure laminate of Cannady et al. to include the decorative sheet of Kato et al because the slot (seam) disclosed by Kato et al. produced a decorative flooring sheet that is similar to conventional wood-type flooring material (Derwent abstract).

Regarding claim 2, Cannady et al. teaches that the high pressure laminate comprised of core layer sheets (kraft paper) impregnated with phenolic resin can have a

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resin (thermosetting binding agent) content of between 20 and 40 percent by weight (col.3, lines 61-63). Cannady et al. gives a range for the resin or thermosetting binding agent content. However, it would have been obvious to one having ordinary skill in the art at the time of the invention to adjust or narrow down a specific resin content amount for the intended application, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claims 6 and 7, Cannady et al. fails to teach the seam having a machining depth of 0.1 to 1.0 mm or a machining width of 3 to 10 mm. However, Kato et al. discloses a machining depth of 0.5 to 3 mm and a machining width of 0.05 to 5 mm ([0051]). Kato et al. does not teach the exact ranges claimed in the instant application. However, it would have been obvious to adjust the ranges for the intended application. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). It was necessary for the depth to exceed the thickness of the face sheet (3), and it is necessary to consider it as the depth of the range which does not exceed the thickness of the sum total of the face sheet (3) and the waterproof sheet layer (2) so that the bottom surface of the rigid sheet layer (2) may not be penetrated ([0051]). At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Cannady et al. and Kato et al. before him or her, to modify the high pressure laminate of Cannady et al. to include the machined slot/groove of Kato et al. because the design of the slot has good water-resistant properties because when the slot was filled with water the hard layer (body) did not swell or peel (Derwent abstract).

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6. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cannady et al. (U.S. Patent No. 3,648,358), Jaisle et al. (U.S. Patent No. 4,636,443), and Kato et al. (Japanese Patent Publication No. 2003-034011) in further view of Ormiston (U.S. Patent No. 5,755,068) and as evidenced by Gleeson (U.S. Patent No. 6,539,643) and Haffner et al. (U.S. Patent Application Publication No. 2003/0046895).

Please refer to the rejection of claim 1 for the limitations regarding the structure of the high pressure laminate.

Cannady et al. additionally teaches a method to produce the high pressure laminate consisting of: treating a roll of kraft paper with a phenol-formaldehyde resin and partially curing it, cutting the paper into equal size core sheets and stacking them, impregnating a sheet of alpha-cellulose paper having a printed wood grained pattern with melamine-formaldehyde resin and superimposing sheet on stack of core sheets; superimposing a melamine-formaldehyde impregnated clear overlay sheet onto the stack; entire assembly was placed and heated in a press (col.4, lines 36-47, 55-58).

Cannady et al. fails to teach the wear resistant top layer and the upper layer machined in depth down to the core of the high pressure laminate by means of a milling tool as well as a numeric controlled machine tool (CNC) having an option for programming patterns of marine flooring plates. However, Ormiston discloses using a CNC router to form a pattern of grooves (seams) in an outer veneer layer (upper layer), the pattern provided by a programmed computer (col.5, lines 27-30). These grooves can extend beyond the veneer layer into the base layer of the veneer panel (col.4, lines 29-31). The grooves simulate a plurality of separate wood boards (col.4, lines 43-44).

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Grooved patterns can be made by a variety of machines such as routers and milling machines, as evidenced by Gleeson (col.8, lines 58-63). Both are used to cut or hollow out a shape in a material such as wood. Additionally, milling tools are common in the art for creating grooves or recesses in the sides of wood laminates for joining purposes, as evidenced by Haffner et al. ([0051]). It would have been obvious to one of ordinary skill in the art to at the time of invention to use a milling tool instead of a router to create grooves (seams) in the laminate as well as add a CNC tool to the milling machine for programming of the seam pattern.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cannady et al. (U.S. Patent No. 3,648,358), Jaisle et al. (U.S. Patent No. 4,636,443), Kato et al. (Japanese Patent Publication No. 2003-034011), Ormiston (U.S. Patent No. 5,755,068) in further view of Clemmer (U.S. Patent No. 7,216,461).

Regarding claim 10, Cannady et al. fails to teach the fixing of the high pressure laminate on stable jigs by means of vacuum. However, Clemmer discloses a tile placed in a jig with a vacuum attached (col.2, lines 52, 55). At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Cannady et al. and Clemmer before him or her, to modify the process used to make the high pressure laminate of Cannady et al. to include the vacuum jig of Clemmer because the vacuum provided movement restraint for the piece in the jig (col.2, lines 55-56).

Regarding positioning the high pressure laminate relative to the milling tool, it would have been obvious to one of ordinary skill in the art at the time of invention to

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position the laminate on the jig so that the machine is able to create seams in the laminate.

Cannady et al. also fails to teach the seams milled to a depth of 0.1 to 1.0 mm. As discussed above, Kato et al. discloses a high pressure laminate that was machined in depth to 0.5 to 3 mm to create slots (seams) on the surface of the laminate ([0051]). Although Kato does not disclose the same range as the instant claim, it would have been obvious to one having ordinary skill in the art at the time of the invention to adjust the machine depth for the intended application, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Kato et al. also discloses that the slots (seams) can be created by known cutting tools such as a saw or router ([0051]). It would have been obvious to one of ordinary skill in the art at the time of invention to use another cutting tool such as a milling tool to create the slot (seam) in the high pressure laminate, as they are known to create grooves in high pressure laminates.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cannady et al. (U.S. Patent No. 3,648,358), Jaisle et al. (U.S. Patent No. 4,636,443), Kato et al. (Japanese Patent Publication No. 2003-034011), and Ormiston (U.S. Patent No. 5,755,068) in further view of Wranosky (U.S. Patent No. 3,483,795).

Cannady et al. fails to teach the milling tool being arranged to take into account variations in thickness and curving of the plate by means of proximity sensors.

However, Wranosky discloses a numerically controlled milling machine (col.2, line 37)

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that employs a conventional thickness sensor (col.3, line 34). At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Cannady et al. and Wranosky before him or her, to modify the process of making the marine flooring plate of Cannady et al. to include the numerically controlled milling machine with thickness sensor of Wranosky because in conventional numerically controlled machines a preselected vertical position of the cutter relative to the machine bed is employed to control the depth of cut and hence, workpiece thickness (col.3, lines 8-11). Wranosky et al. discloses that the thickness is determined by timing how long it takes a wave pulse to travel from front to back and then from back to front of the workpiece. Using the velocity of sound, the thickness can be measured (col.3, lines 28-33).

Examiner notes that because applicant did not specify in what direction curving occurs, for examination purposes, curving occurs in the vertical direction and can be satisfied by the previously mentioned prior art. Additionally, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a sensor like the thickness sensor in a direction parallel to the thickness sensor to take into account variations in curving of the plate that may occur on the sides of the high pressure laminate.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NICOLE HARRISON whose telephone number is (571)

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270-3741. The examiner can normally be reached on Monday through Thursday, 8 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NH

/JENNIFER MCNEIL/
Supervisory Patent Examiner, Art Unit 1794